

Exhibit 4

**UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK**

)	
In re:)	Case No. 12-12020 (MG)
)	
RESIDENTIAL CAPITAL, LLC, et al.,)	Chapter 11
)	
Debtors.)	Jointly Administered
)	

EXPERT REPORT OF BRADFORD CORNELL, Ph.D.

1. Introduction and Summary of Opinions

1.1. Assignment

1. On June 11, 2012, Residential Capital, LLC (“ResCap”) and its affiliated Debtors (together, the “Debtors”) submitted a motion in this case seeking approval of a settlement (as amended, the “Proposed Settlement”) under which an allowed claim amount of up to \$8.7 billion against Debtors Residential Funding Company, LLC and GMAC Mortgage LLC (the “Agreed Claim”) will be allocated among up to 392 residential mortgage securitization trusts (the “ResCap Trusts” or “Trusts”).¹ The Proposed Settlement stems from losses incurred, and that may yet be incurred, on residential mortgage loans that served as the collateral for residential mortgage backed securities (“RMBS”) issued by the ResCap Trusts. Some of the loans securitized by the ResCap Trusts are alleged not to comply with applicable representations and warranties (“R&Ws”) contained in the relevant governing agreements. The Debtors dispute the Trusts’ R&W Claims, but cite \$30.3 billion in cumulative losses to date and prospective litigation costs and risks in seeking approval of the Proposed Settlement.²

2. I have been asked by counsel for the Official Committee of Unsecured Creditors (the “Committee”) to analyze the available evidence to provide an independent economic analysis of the

¹ Debtors’ Motion Pursuant To Fed. R. Bankr. P. 9019 for Approval of the RMBS Trust Settlement Agreements, June 11, 2012 (“Debtors’ Motion”), p. 1.

² Debtors’ Motion, pp. 2-3.

amount of losses that the ResCap Trusts incurred on mortgage loans that can be attributed to material defects in the underwriting of those loans. My analysis relates only to the Trusts' contractual "put-back" or "repurchase" claims under the governing agreements.

1.2. Qualifications

3. I am currently a Visiting Professor of Financial Economics at the California Institute of Technology ("Caltech"). Previously, for 26 years, I was a Professor of Finance and Director of the Bank of America Research Center at the Anderson Graduate School of Management at the University of California, Los Angeles.

4. I received a master's degree in statistics from Stanford University in 1974 and a doctorate in Financial Economics from Stanford in 1975. I have served as an editor of numerous journals relating to business and finance and have written more than 100 articles and two books on finance and securities, including Corporate Valuation: Tools For Effective Appraisal and Decision Making (1993), published by McGraw-Hill, and The Equity Risk Premium and the Long-Run Future of the Stock Market (1999), published by John Wiley and Sons. To complement my academic writing, I have also authored articles for The Wall Street Journal and the Los Angeles Times.

5. My research has been widely recognized. In 1988, I was cited by the Financial Management Association as one of the ten most prolific authors in the field of finance. I have received prizes and grants for my research from the Chicago Board of Trade, the Chicago Mercantile Exchange, and the Institute for Quantitative Research in Finance. My article, "Corporate Stakeholders and Corporate Finance," received the 1987 Distinguished Applied Research Award from the Financial Management Association. In 1999, I was awarded the I/B/E/S prize for empirical work in finance and accounting (with Wayne Landsman and Jennifer Conrad). Richard Roll and I received a Graham and Dodd Scroll Award in 2006 from the Financial Analyst Society for our work on delegated agent asset

pricing theory. I won this award again in 2011 for my work on economic growth and equity investing. My paper entitled "Luck, Skill, and Investment Performance" in The Journal of Portfolio Management won an Outstanding Article prize from the 11th Annual Bernstein Fabozzi/Jacobs Levy Awards.

6. I have also been active in my profession. I have served as a Vice President of the Western Finance Association. I am also a past director of both the American Finance Association and the Western Finance Association. I have served as an associate editor of numerous professional journals including: The Journal of Finance, The Journal of Futures Markets, The Journal of Financial Research and The Journal of International Business Studies. I have served as a reviewer for nearly a dozen other professional journals.

7. My teaching and writing have focused on a number of different financial and economic issues, many of which are relevant to the subject matter of this report. I currently teach Applied Corporate Finance and Investment Banking at Caltech. Examples of other classes I have taught over the course of my academic career include Corporate Valuation, the Law and Finance of Corporate Acquisitions and Restructurings, Corporate Financial Theory, and Security Valuation and Investments.

8. In addition to my teaching, writing, and research studies, I have long advised business and legal clients on financial economic issues. I have been assisted in that work by other economists and support staff. Between 1990 and March 1999, I operated FinEcon, a financial economic consulting company, through which I also advised business and legal clients on financial economic issues. I served as a Senior Consultant to Charles River Associates from March 1999 through December 2011. Since December 2011, I have been a Senior Consultant to Compass Lexecon. I am also the Managing Director of San Marino Business Partners. In preparing this report, I have been assisted by colleagues at San Marino Business Partners and other consultants retained by the Committee, particularly the professionals at Coherent Economics.

9. I have served as a consultant and have given testimony for both plaintiffs and defendants in a variety of securities, regulatory and commercial legal disputes, including with respect to valuation, corporate finance, portfolio management and damages issues. I have been engaged as a damages expert in numerous high-profile cases which revolved around complex financial and securities transactions.

10. I have extensive expertise in structured finance and valuation in a variety of contexts, including with respect to RMBS. I have provided expert analysis on the financial consequences of the housing crisis. In particular, I have served as an expert in cases involving the genesis of the financial crisis and whether it was foreseeable, the risk and return of structured securities backed by residential mortgages, and the rating of structured securities backed by residential mortgages.

11. My background is described more fully in my curriculum vitae, which is attached as Exhibit 1. A list of my publications may also be found in Exhibit 1. A list of testimony I have given in deposition or at trial over the past four years may be found in Exhibit 2. I, and economists and support staff working under my direction, have had access to databases containing many thousands of documents and data files, including the "Relativity" database maintained by Alix Partners, the Intralinks virtual "data room," and the ResCap "Vision" Internet portal, and have considered many of the materials stored in those databases and in the public domain, as shown in Exhibit 3. The materials that I relied on in preparing this report are listed in footnotes throughout the report.

12. I am being compensated at a rate of \$975 per hour for my work in this matter. My compensation is not contingent on the results of this case or on my opinions.

1.3. Summary of Opinions

13. In this report, I describe the basis for the following main opinions.

14. **Opinion 1:** The housing and financial crisis caused substantial losses on the types of loans securitized by the ResCap Trusts. The crisis has caused substantial losses to mortgage-related assets throughout the U.S. economy and would have caused losses to the ResCap Trusts even had there been no underwriting defects or R&W breaches.

15. **Opinion 2:** Underwriting defects appear to have caused additional losses of about \$3.8 billion to the ResCap Trusts. Certain legal considerations based on statute of limitations, if applicable, may reduce the Debtors' liability to an estimated range of \$2.7 billion to \$3.3 billion. A further adjustment that I describe below, which is based on a recent Federal Court decision in Minnesota regarding the unavailability of a put-back right once mortgages have terminated, may reduce the Debtors' liability still further.

16. **Opinion 3:** Mr. Sillman's analysis of the Debtors' estimated repurchase obligations is unreliable. The attempts of Debtors' expert, Frank Sillman, to estimate the total settlement amount that the Debtors "might agree" to pay on account of alleged R&W breaches is flawed in a number of respects. For one thing, Mr. Sillman is handicapped by his lack of reliance on any information specifically concerning the underwriting characteristics of the loans at issue. His conjectures about what fraction of loan losses the Debtors "might agree" to pay lack any empirical foundation beyond Mr. Sillman's assurances that his assumptions are consistent with his experiences in other settings, involving different lenders and different loans.

2. The Housing and Financial Crisis Caused Substantial Losses on the Types of Loans Securitized by the ResCap Trusts

17. The Proposed Settlement relates to potential claims arising from losses on mortgage loans that served as collateral for mortgage backed securities. One potential source of losses on a loan is the existence of one or more flaws in the origination of the loan that might represent a material underwriting defect. Factors other than underwriting defects, such as a general economic downturn

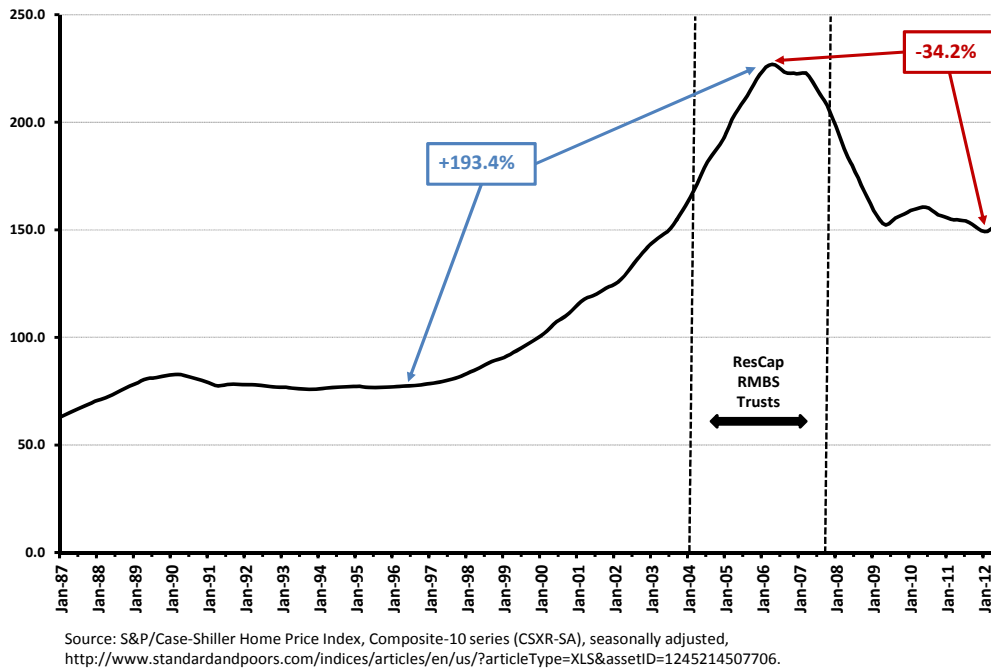
and decline in housing prices, may also contribute to a loss on a loan, whether or not there was a material underwriting defect. In fact, after the ResCap Trusts were formed, there were very substantial disruptions in the housing and housing finance sectors which likely contributed to losses incurred by the ResCap Trusts.

18. As Figure 1 shows, average U.S. house prices began to increase at a tremendous rate beginning in the mid-1990s and accelerating in the following decade. The Case-Shiller (composite U.S.) Home Price Index increased by over 20% in a single year, from 2003 to the summer of 2004. Lenders became willing to make loans to less creditworthy mortgage applicants on the assumption that the increased risk would be offset by the increasing home prices. For example, subprime mortgage originations, a category newly created in the 1980s, grew from \$65 billion in 1995 to over \$330 billion in 2003.³ These loans ultimately displayed dramatically higher delinquency and foreclosure rates compared to traditional mortgages. During the period 1998–2002, the percentage of subprime loans in foreclosure grew by a factor of four, while the corresponding measure for prime fixed-rate loans decreased.⁴ Yet, the subprime market continued to grow because housing prices continued to increase at accelerating rates. The range of riskier, non-traditional mortgages expanded to include such products as low- and no-documentation loans, high-loan-to-value loans (LTV, including cash-out refinances and second liens), and interest-only and negative amortization loans.

³ Souphala Chomsisengphet and Anthony Pennington-Cross, “The Evolution of the Subprime Mortgage Market,” Federal Reserve Bank of St. Louis Review, January/February 2006, 88(1), p. 37.

⁴ Ibid., p. 33.

Figure 1
U.S. Home Price Index, 1987-2012

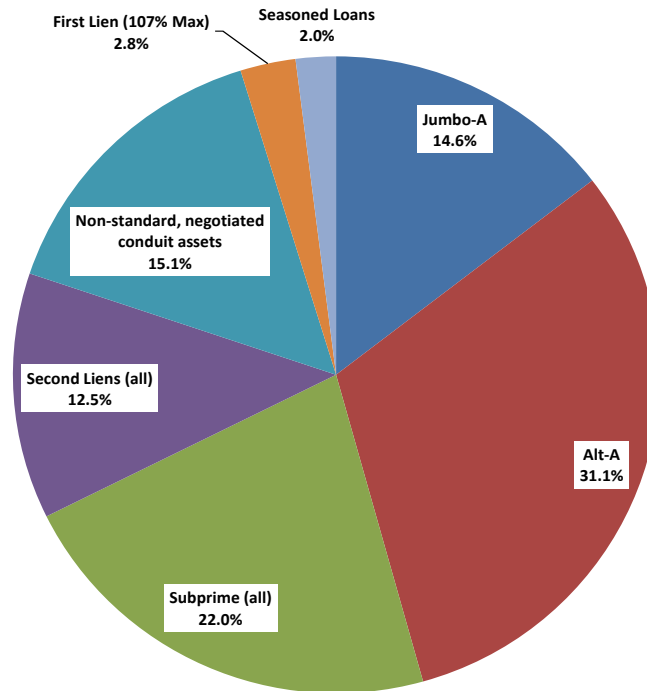


19. The ResCap Trusts securitized a variety of loan types, as summarized (at a high level) in Figure 2, including many “Alt-A” loans (31.1% of original ResCap Trust balances), subprime loans (22.0% of balances), and various types of second liens and home equity lines of credit (“HELOCs”), often with LTV ratios of 100% or more.⁵ These loans offered investors higher yields but also greater risk. For example, the loan interest rates in the RFMSII 2006-HI5 pool averaged 12.5% – in a year in which the average “conforming” first lien mortgage loan rate in the United States was 6.41%.⁶

⁵ RC-9019_00000002. Compared to prime mortgages, Alt-A and subprime loans are extended to borrowers with lower credit ratings, insufficient documentation of income, and/or smaller down payments. Congressional Budget Office, *Fannie Mae, Freddie Mac, and the Federal Role in the Secondary Mortgage Market*, December 2010. Available online at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12032/12-23-fanniefreddie.pdf>, last visited on November 25, 2012.

⁶ Prospectus Supplement to Prospectus dated December 20, 2006, RFMSII 2005-HI5, p. S-5; Board of Governors of the Federal Reserve release H.15, series RMMPCFC_N.M, contract rate on commitments for fixed-rate first mortgages (data provided by Primary Mortgage Market Survey), <http://www.federalreserve.gov/datadownload/Output.aspx?rel=H15&series=2f55cd29508d50a0f623843328a7e1ba&lastObs=&from=&to=&filetype=csv&label=include&layout=seriescolumn>. Conforming loans meet the requirements to be purchased by one of the government sponsored enterprises (GSEs).

Figure 2
Distribution of ResCap Trust Loan Types, by Original Deal Balances



Source: Fortace "Trust Summary, By Entity, Shelf, By Product," spreadsheet "Bal by Entity, Shelf," RC-9019_00000002.

20. The nature of the underwriting for the loans in the ResCap Trusts was disclosed contemporaneously with the securitizations. For example, as ResCap attorney Jeffrey Lipps explains, the various prospectus supplements disclosed risks such as:⁷

- Loans originated using less stringent underwriting guidelines than used in other securitizations.
- Loans made under "limited documentation," "streamlined documentation," or "no documentation" programs. Under some such programs, "minimal investigation into the mortgagor's credit history and income profile is undertaken by the originator..."
- Loans made to borrowers whose income is not required to be disclosed or verified, or may be less than represented.
- Determination of owner occupancy status based only on a representation by the borrower.

⁷ Lipps Supplemental Declaration, September 28, 2012, pp. 10-13.

- Automated valuation services used in lieu of an appraisal, appraisers who are employees of loan originators, and/or appraised values based only on a broker's price opinion or a "drive-by" appraisal.
- "The level of review by Residential Funding Company, LLC, *if any*, will vary..." (emphasis added).
- Loans that do not meet the [RFC] underwriting standards.

21. Even as the housing market began to decline in late 2006 and early 2007, analysts and leading government officials typically predicted only a modest, temporary decrease in home prices, followed by renewed price increases. For example, the National Association of Realtors new single-family home price forecast in January 2007 was +1.8% for all of 2007 and +3.4% for 2008.⁸ In early 2007, Freddie Mac forecast a 3.6% increase in home price for 2008, and Fannie Mae predicted a 2.2% decrease in home prices in 2007, followed by price appreciation of 1.0% in 2008.⁹ As late as May 2007, the Wall Street Journal reported that the Federal Reserve decided to keep the fed funds rate at 5.25% because policy makers were upbeat about economic growth.¹⁰

22. The widely predicted price recovery did not materialize. Instead, there was a massive collapse in home prices, by a cumulative 34.2% by late 2011. The value of homes securing many loans, particularly those issued when home prices were at or near their peak levels, fell significantly below the loan amounts, i.e., the loans became "underwater" (or more deeply underwater, instead of improving to positive equity, if they were issued with negative borrower equity). The magnitude of home price declines meant that even mortgages formerly considered to be relatively low risk loans with, for example, 80% LTV ratios, might be underwater.¹¹ High LTV loans issued at the height of the housing

⁸ U.S. Residential Finance Group, Housing and Economic Outlook, February 7, 2007 (RC21483062), p. 2.

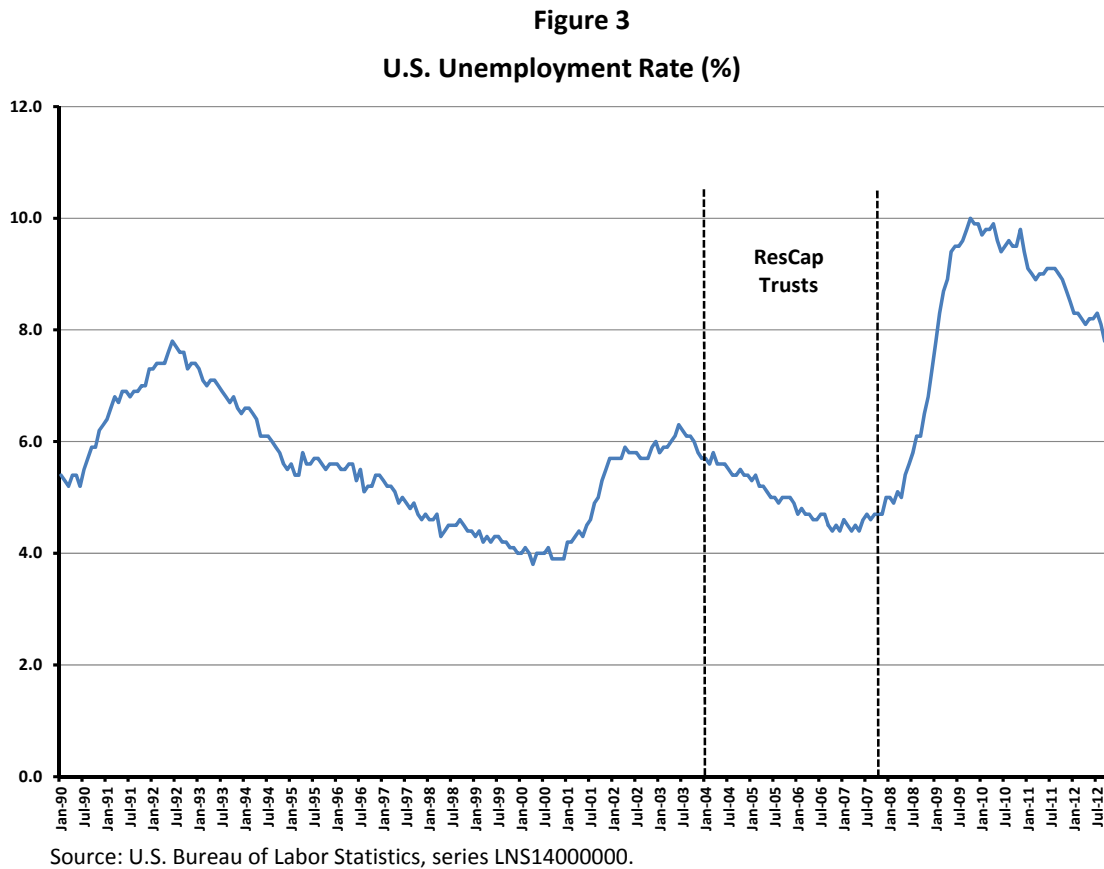
⁹ Id., p. 14.

¹⁰ Deborah Lynn Blumberg, "Treasurys Notch Small Gains," The Wall Street Journal, May 31, 2007.

¹¹ Prices declined by more than 40% in seven of the twenty cities tracked in Case-Shiller Home Price Indexes, including two cities that experienced price declines in excess of 50%. See, Case-Shiller Home Price Index Levels (seasonally adjusted), <http://www.standardandpoors.com/indices/articles/en/us/?articleType=XLS&assetID=1245214507706>.

boom, such as cash-out refinances, and properties with second liens such as home equity lines of credit on top of the first lien mortgage were likely to be substantially underwater.

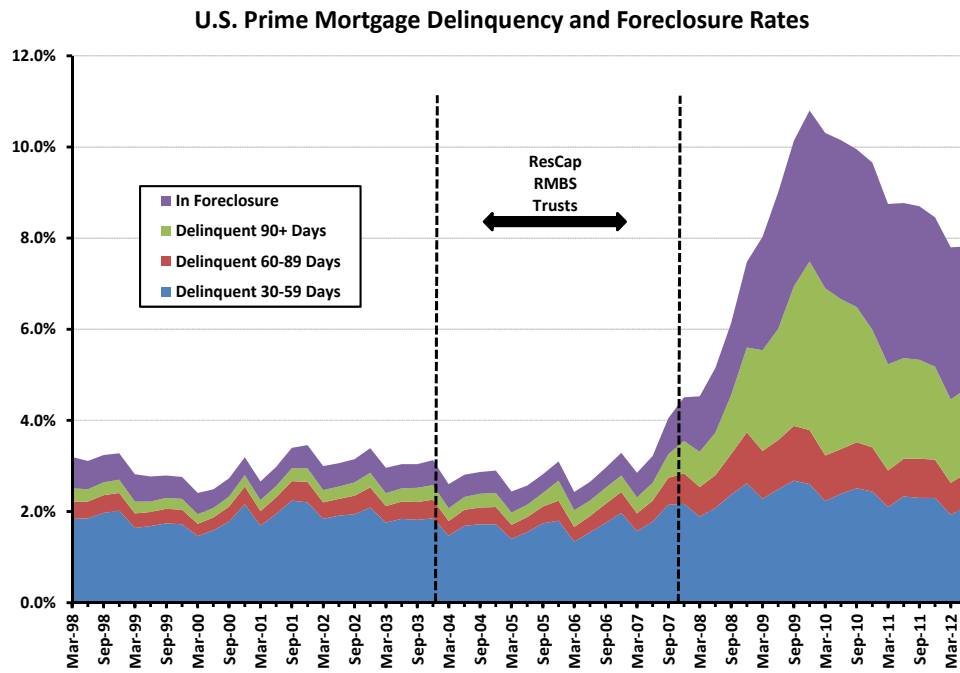
23. The downturn in the housing and housing finance sectors was soon followed by a recession and sharply higher unemployment. The unemployment rate rose from just over 4% in early 2007 to about 10% by mid-2009. (Figure 3.) Unemployment and declining household incomes, moreover, meant that many Americans could not afford their monthly mortgage payment, further exacerbating the decline in the housing sectors and losses suffered by mortgage lenders and investors.



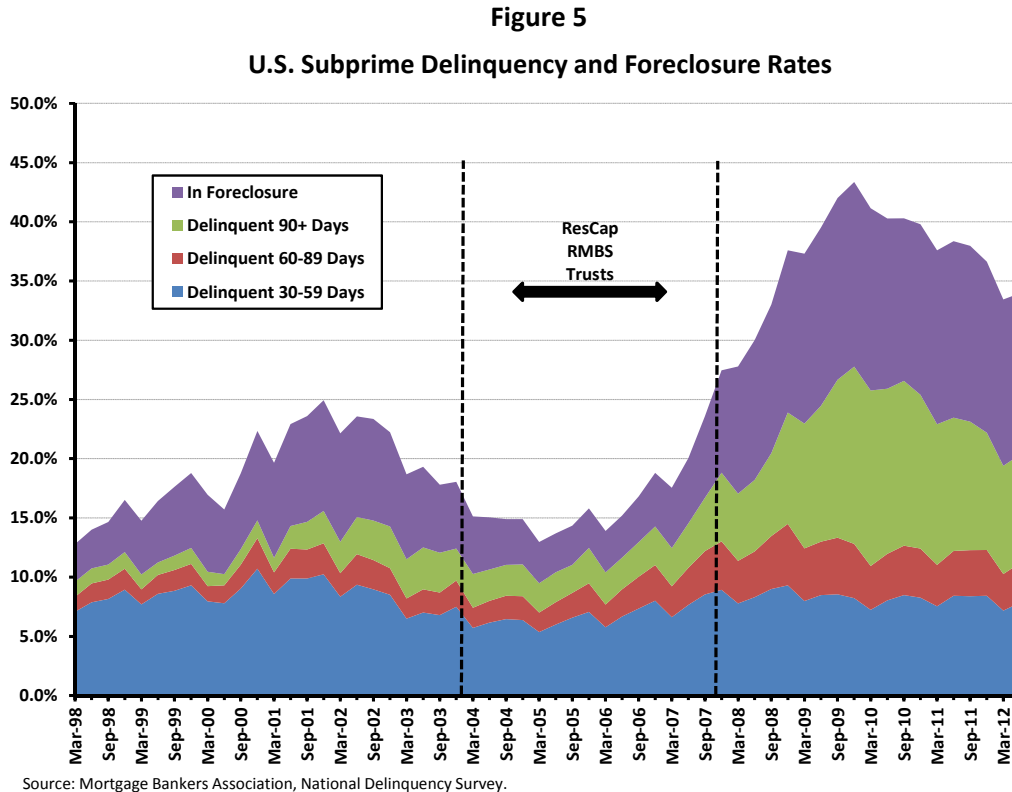
24. The distress in the U.S. housing market set in very soon after the ResCap Trusts were formed. For prime loans, the incidence of foreclosure more than tripled by 2009 (Figure 4). For subprime, over 40% of loans were delinquent or in foreclosure by late 2009 (Figure 5). Foreclosing and

liquidating those loans and selling the properties in a deeply distressed market led to massive losses throughout the housing finance sector.

Figure 4



Source: Mortgage Bankers Association, National Delinquency Survey.



25. The performance of the ResCap Trusts suffered as a result of this collapse.¹² As discussed below, the loans at issue in this case with material underwriting defects represent only a portion of the loans in the Trusts, and only a portion of the losses on these loans appear to have been caused by underwriting defects. The economy-wide negative factors that caused losses in RMBS investments would have been present regardless of underwriting defects in the loans held by the ResCap Trusts. Lower home prices and household income, and higher unemployment, would have led to high delinquency and foreclosure rates and high loss severity rates for ResCap even if the loans had no underwriting defects at all. Underwriting tools designed to protect lenders from *individualized* loan

¹² The performance of the ResCap Trusts was an effect, not the cause, of this collapse. From 2004 through 2007, a total of \$10.8 trillion in 1-4 family residential mortgage loans were issued in the United States. See Mortgage Bankers Association, Origination Estimates, <http://www.mortgagebankers.org/files/Research/HistoricalWAS/HistoricalMortgageOriginationEstimates022311.xls>. The roughly \$221 billion securitized by the ResCap Trusts represent only about 2% of that amount.

credit risk would not have protected lenders from the *systemic* risk that affected the entire housing sector.

3. The Available Evidence Suggests that Underwriting Defects Caused Additional Collateral Losses of About \$3.8 Billion to the ResCap Trusts

3.1. Conceptual Framework for Determining Losses Caused by Underwriting Defects

26. The economic analysis of damages is shaped in part by the legal framework governing damages in a particular setting. In this case, I have been asked to estimate the economic losses incurred by the ResCap Trusts that were caused by underwriting defects.

27. This legal approach dovetails with the typical economic approach to damages, which involves isolating the economic effects of an underwriting defect or R&W breach from other factors which affect economic results. In the case of the housing industry, one recent study concluded that a significant fraction of losses on mortgage assets resulted from macroeconomic factors, particularly declining home prices, rather than from less stringent underwriting practices (let alone underwriting defects which might legally constitute R&W breaches).¹³ Another study found that house prices had declined in many areas of the country by 2007 and this deterioration, along with increases in unemployment, were large contributors to the mortgage crisis.¹⁴ The Debtors' expert, Mr. Sillman, acknowledges that the "worst recession since the Great Depression" was accompanied by "growing unemployment," "loss of income," and "plummeting housing prices" which have had "a profoundly negative impact on the performance of and resulting losses on all mortgage securitizations."¹⁵

¹³ See, e.g., Dennis R. Capozza and Robert Van Order, "The Great Surge in Mortgage Defaults 2006-2009: The Comparative Roles of Economic Conditions, Underwriting, and Moral Hazard, working paper, June 2010 (finding a roughly 50/50 split between underwriting and economic conditions as factors causing the surge in foreclosures).

¹⁴ Christopher Mayer, Karen Pence and Shane M. Sherlund, "The Rise in Mortgage Defaults," Journal of Economic Perspectives, Winter 2009, p. 44.

¹⁵ Declaration of Frank Sillman In Support Of Debtors' Motion Pursuant To Fed. R. Bankr. P. 9019 For Approval Of The Rmbs Trust Settlement Agreements, June 11, 2012 ("Sillman Declaration"), ¶19. Mr. Sillman testified that the recession and plummeting home prices are factors in rising mortgage delinquencies and an increase in the

28. Measuring damages based on the incremental losses caused by underwriting defects is also consistent conceptually with the existence of loan substitution as a remedy for breaches. I am advised by counsel that the governing agreements generally permit substitution when a particular loan sold to a Trust contains a material and adverse breach of stated representations and warranties.¹⁶ Suppose that the loan servicer examined each loan carefully and quickly identified all loans with R&W breaches, and the seller quickly agreed to replace all such loans with substitute loans. In such a scenario, and with the declining market conditions that actually occurred, the Trust would still have incurred substantial losses on a portfolio free of R&W breaches. And, if the substitutions had been made, there would have been no further repurchase rights or compensation to be paid to the Trusts following the subsequent losses on conforming loans. An economic approach to the measurement of losses in this case thus estimates the economic position of the Trusts had all of the defective loans been substituted with conforming loans from the very beginning.¹⁷

29. I use three main conceptual steps to estimate the economic losses on loans caused by underwriting defects. The first step is to measure the losses on loans that could be related to underwriting defects. The second step is to estimate the percentage of those losses that are associated with loans that have material underwriting defects. The final step is to deduct from the total losses on loans with material underwriting defects the portion of those losses that would have occurred had the

severity of losses incurred by investors upon foreclosure. Deposition of Frank Sillman, November 20, 2012, pp. 156-59.

¹⁶ See, e.g., Prospectus Supplement for RAMP Series 2006-RS2, p. S-10; GMACM Series 2006-AR1, p. S-41. Contractually, the Seller's substitution option was limited to breaches detected within a specified period of time (e.g., 2 years in the case of the RAMP 2006-RS2 securitization) following formation of the Trust. I understand this practice arose from tax considerations.

¹⁷ The original intent was not to *avoid* investing in the Debtor's mortgage loans, but rather to invest in a pool of non-breaching mortgage loans. It is, of course, too late today to provide the Trusts with substitute loans in 2006 which would then suffer losses. The point here is not that the Debtors have any particular contractual right to provide substitute loans today, but rather that the substitute loan option is consistent with my focus on incremental losses caused by underwriting defects.

loans not had underwriting defects. The amount subtracted reflects the losses that “good” loans would have sustained because of deterioration in general economic conditions and the drop in housing prices.

30. Determining the amount of losses is generally a straightforward exercise for loans which have completed the foreclosure process or have otherwise been liquidated. In other cases, however, a delinquent loan may not have completed the foreclosure process, or may be delinquent and likely to result in a loss, but not yet in the foreclosure process. A loan may even be current, yet at some point in the future become seriously delinquent (although, as I will explain, the available evidence does not support a link between underwriting defects and losses that occur long after issuance). For loans that have “defaulted” – i.e., become seriously delinquent or entered the foreclosure process – but have not yet been fully resolved as of a particular date, some estimation of loan losses must be made.

31. The second issue is determining which loans (with losses) have material underwriting defects. A review of actual loan files is a standard approach in the RMBS arena to help make this determination. I recognize that a determination of whether or not there were defects in the underwriting is not equivalent to identifying breaches of representations and warranties in the governing agreements. A defect may not be a breach if there was no R&W that applied to the defect in question, or arguably if there was sufficient disclosure warning of the possibility of defects. For my work, I focus on material defects, which counsel has instructed me to use as a rough proxy for material R&W breaches, recognizing that this could lead to an overstatement, or conceivably an understatement, of breach-related losses. I employ statistical analysis of the loan review data in conjunction with pay history information for sample loans to analyze the extent of linkage between defective underwriting and the likelihood of default. The information from the loan sample is then projected to the universe of all ResCap Trusts.

32. Finally, once the amount of losses on loans with materially defective underwriting has been determined, I reduce that sum by the amount of losses that would have been incurred on those loans had they been non-defective. I do this by reviewing the financial performance of non-defective loans in addition to defective loans.

3.2. Review of loan files

33. Approximately 1.6 million home mortgage loans were included in the pools sold to the ResCap Trusts. At my direction, a sample of 1,500 of those loans was drawn at random for “re-underwriting.” This is a standard procedure in which professional loan reviewers perform an after-the-fact evaluation of the original underwriting to assess compliance with the applicable loan program guidelines and other relevant criteria. Copies of the 1,500 loan origination files were requested and were provided to an experienced re-underwriting firm, Analytic Focus, working under the direction of Mr. J. F. Morrow.

34. The re-underwriters determined that 1,089 loan files had sufficient information to enable the loans to be re-underwritten.¹⁸ Each of the 1,089 re-underwritten loans received an overall assessment from the re-underwriters as being either “investment grade without defects,” “investment grade with non-material defects,” or “materially defective.”¹⁹

35. The re-underwriters determined that 28.7% of the sample loans (by loan count) and 26.7% of the sample loans (by value) that they were able to evaluate contained what they concluded were material underwriting defects. These percentages provide some, but not all of the information

¹⁸ I understand that re-underwriting was not possible when the applicable loan program guidelines were missing or missing documentation in the loan files precluded meaningful review.

¹⁹ For details, see Expert Report of J F Morrow, which I understand is being submitted along with this expert report. As noted above, materially defective underwriting may not constitute an R&W breach. I understand that the contractual documents governing the loans in the ResCap Trusts often do not contain a representation that the loans were originated in conformance with underwriting guidelines, and, in the other direction, some R&W breaches (e.g., flawed appraisals that lead to misstated home values) might successfully be argued by the Trusts to constitute material R&W breaches yet would not be included as “materially defective” underwriting as determined by the re-underwriting process.

that must be considered to arrive at a measure of losses related to underwriting defects. To use the re-underwriting sample to estimate such losses, it is necessary to combine those results with data on actual payment histories and losses. I was able to obtain this information for 819 of the re-underwritten loans from CoreLogic, a third-party vendor of loan servicing data.

36. I investigated whether my analysis may be biased due to reviewing 1,089 loan files instead of 1,500. That is, 411 loan files had to be excluded. I have not identified a basis for concern. The random sample of 1,500 loans included loans from 328 separate ResCap trusts. The re-underwriting results include loans from 304 of those trusts. All of the loan product types, or “shelves,” (e.g., the Alt-A RALI, the subprime RASC) in the loan sample are represented in the re-underwriting results. In addition, there is no indication of a bias from missing trusts. For example, the sample of 1,500 included trusts 2005-RS1 through 2005-RS9. Re-underwriting was possible for loans in seven of these nine trusts, and there is no reason to suspect the seven available trusts are not representative of the missing ones.²⁰

37. The re-underwriters have informed me that 92 of the 411 loans (or 22%) were not analyzed because of missing underwriting guidelines. Missing guidelines have no connection to whether or not a loan was properly underwritten and do not cause bias. I also understand that the other loans that were not re-underwritten were omitted due to incomplete loan files and missing documentation. In particular, I examined whether these incomplete files might be due to a disproportionately high incidence of default, on the conjecture that documents “went missing” in the course of processing a foreclosure or similar event. The evidence shows the opposite, however. If anything, the files that were

²⁰ RAMP RS Series (ARM &FRM), Collateral Summary by Issue Year. This report and similar reports for the other shelves are available on the ResCap Vision website. See <https://investor.gmacrfc.com/vision/default.aspx>.

not re-underwritten have a lower incidence of foreclosure.²¹ They appear to be a random subset of the 1,500 loans, which again indicates no bias.

38. I also investigated whether there may be a bias from having payment and loss data for 819 loans instead of 1,089. This lack of coverage arose principally because the CoreLogic data did not include information for the sample loans in Rule 144A trusts and other securities that are not publicly traded. Compared to the sample of 819, the loans with missing CoreLogic data are disproportionately second liens such as home equity lines of credit. However, the preponderance of second liens in the excluded loans does not have a significant effect on my conclusions. The details of my analysis on this point are presented in connection with the results shown in Table 2 below.

39. I conducted another check of the reliability of the sample by comparing data from the loan files to the loan issuance data in the ResCap Vision database (the “loan tape”). This comparison included the FICO credit score, LTV, CLTV (i.e., combined loan to value, which includes all liens on a property), and debt-to-income ratio (DTI). I have been informed by counsel that a loan may be considered materially defective if there is a discrepancy between the loan file and the loan tape and 1) the discrepancy is against the interest of the investor, e.g., a loan tape LTV that is below the loan file LTV, and 2) there is a representation and warranty provision in the deal that includes that type of discrepancy.

40. My conclusion is that there is no material difference between the loan file data and the loan tape data. Out of 278 cases where it was possible to compare FICO scores, there were 11 instances where the loan tape value was higher than the loan file and the underwriting was not already categorized as defective. I have been informed by counsel that there are very few instances of an R&W for FICO scores. I view LTV and CLTV together, and find a single instance in 639 cases where the loan

²¹ For the 819 loans that were re-underwritten and could be matched to CoreLogic data, 30.5% ultimately defaulted. In contrast, there were 194 loans that were not suitable for re-underwriting but could be located in the CoreLogic data. The default rate for this group was lower, at 26.8%.

tape LTV was below the loan file LTV, the CLTVs failed to match, and the underwriting was not already categorized as defective by the re-underwriters. For DTI, there is a single instance where the loan tape DTI was below the loan file DTI, there was an R&W for DTI, and the underwriting was not already categorized as defective.

3.3. Linking Loan Defaults to Underwriting Defects

41. There is an important time dimension to the causal effect of underwriting defects on losses. Fannie Mae and Freddie Mac historically focused their analysis of potential material R&W breaches on early payment defaults – typically those occurring up to two years after origination.²² Similarly, Moody’s has recommended reviewing the underwriting for a loan only if it becomes severely delinquent within the first 18 months.²³ The Department of Housing and Urban Development requires a quality control review on mortgage loans that become 60 days past due within the first six payments.²⁴

42. The logic for focusing on these “early payment defaults” is that fraud often is reflected in payment defaults at an early stage, and that circumstances other than original underwriting defects that can cause or largely cause a borrower’s delinquency, such as job loss, illness, death, or unexpected

²² A report cited by the Debtors’ expert, Mr. Sillman, explains: “Freddie Mac management has advised FHFA-OIG that they also believe that higher rates of loan defaults in later years do not necessarily equate to higher defect rates. In their view loans that had demonstrated consistent payment history over the first two years following origination and then defaulted in later years i.e., years three through five after origination likely did so for reason such as loss of employment which is unrelated to representations and warranties defect. Based on these assumptions Freddie Mac does not review most loans that go into foreclosure more than two years after origination.” Federal Housing Finance Agency Office of Inspector General, Evaluation of the Federal Housing Finance Agency’s Oversight of Freddie Macs’ Repurchase Settlement with Bank of America, Evaluation Report: EVL-2011-006, September 27, 2011, RC-9019_00003942, p. 18. Mr. Sillman contends that the GSEs’ focus on early payment defaults was an unwise strategy, but he provides no independent empirical support for extending the horizon indefinitely, as suggested by his computations. Declaration of Frank Sillman In Support Of Debtors’ Motion Pursuant To Fed. R. Bankr. P. 9019 For Approval Of The RMBS Trust Settlement Agreements, June 11, 2012 (“Sillman Declaration”), ¶¶52-53.

²³ Moody’s Criteria for Evaluating Representations and Warranties in U.S. Residential Mortgage Backed Securitizations (RMBS),” Moody’s Investor Service, November 24, 2008. “Severely delinquent” is defined by Moody’s as: (a) 120+ days delinquent, in foreclosure, real estate owned (REO), or (b) the loan was modified or had a short payoff and the lender experiences a loss, or (c) the borrower files for bankruptcy.

²⁴ U.S. Department of Housing and Urban Development, “Quality Control Requirements for Direct Endorsement Lenders,” Mortgagee Letter 2011-02, <http://portal.hud.gov/hudportal/documents/huddoc?id=11-02ml.pdf>. (HUD also requires a routine quality control plan.)

inability to refinance loans due to the housing crisis, accumulate over time, while the underwriting status of a loan is static as of the loan origination date. Thus, the farther out in time since the origination of a portfolio of loans, the less likely it is that newly arising defaults and losses can be linked causally to underwriting defects rather than to other factors.

43. I use the statistical technique of “regression analysis” to investigate the horizon over which material underwriting defects might be demonstrably linked to the risk of default.²⁵ My approach frames this question in the following way: given that a loan has not defaulted as of a given month, does the presence of a material underwriting defect predict that the loan is likely to default in the future? For example, consider a loan in the first month after the trust issues. Does a defect help predict a default looking forward at that point? If so, advance to the next month, and ask the same question but limit attention to the loans that still have good payment histories and have not yet defaulted. If defects always matter, then regardless of how far in the future one goes, the presence of an underwriting defect should help predict default for the loans that have not defaulted up to that point. On the other hand, if the effect of a defect on default is relevant only in an initial window after issuance, then there is some horizon beyond which the presence of a defect fails to predict future defaults. My regression analysis identifies this horizon empirically using the 819 sample loans with available payment histories.

44. Specifically, I perform a series of regression analyses in which the horizon under examination is incremented each time. The “dependent” variable is a binary indicator to represent whether a loan ever defaulted after the specified horizon, where a value of 1 indicates default and a value of zero indicates no default. I define default for this purpose as the first month in which, according to CoreLogic, a loan either enters foreclosure, becomes real-estate owned (“REO”), or is last recorded as current if its ultimate status is liquidated with a loss. I test for whether the dependent

²⁵ Regression analysis is widely used in legal proceedings. See Reference Manual on Scientific Evidence, Federal Judicial Center, 2000, pp. 179–227.

variable (i.e., the indicator that a loan defaulted after the horizon being tested) is explained statistically by an independent (explanatory) variable that is an indicator for whether the particular loan had materially defective underwriting (coded as the value 1) or not (coded as zero). My analysis consists of estimating 19 separate regression equations spanning early payment default horizons ranging from 18 months after issuance to 36 months after issuance.²⁶

45. I estimate the regression equations using two alternative statistical techniques, ordinary least squares and logit.²⁷ The results show that the presence of material underwriting defects reliably predict heightened probability of defaults looking forward from month 18, but the effect diminishes fairly steadily as the horizon lengthens. By month 28, the presence of material underwriting defects no longer has any statistically significant predictive power over the likelihood of defaults, and the results thereafter consistently show no significant effect of underwriting defects on the probability of default. The results of these horizon regressions are presented in Table 1.

²⁶ This range includes the horizons typically discussed in the industry sources I have reviewed.

²⁷ Logit regression is a more specialized technique to model binary outcomes such as default/no default. William D. Greene, *Econometric Analysis*, 2nd edition, 1993, p. 643. Ordinary least squares with a binary dependent variable is known to display heteroscedastic errors. Greene, p. 637. For this reason, I base statistical inference in the ordinary least squares models on t-statistics that use “robust” standard errors that correct for heteroscedasticity. Greene, p. 391.

Table 1
Regression Analysis: Effect of Material Underwriting Defects on Defaults

Horizon Month	Number of Observations	Ordinary Least Squares Estimation			Logit Estimation	
		Estimated Effect	T-Statistic	Statistically Significant?	T-Statistic	Statistically Significant?
18	548	0.1095	2.42	Yes	2.47	Yes
19	538	0.1018	2.22	Yes	2.27	Yes
20	523	0.0891	1.92	No	1.96	Yes
21	509	0.0812	1.74	No	1.78	No
22	493	0.0860	1.80	No	1.85	No
23	477	0.0949	1.95	No	2.00	Yes
24	453	0.1255	2.50	Yes	2.58	Yes
25	428	0.1229	2.36	Yes	2.43	Yes
26	407	0.1239	2.30	Yes	2.36	Yes
27	396	0.1206	2.20	Yes	2.27	Yes
28	384	0.0845	1.52	No	1.56	No
29	377	0.0740	1.33	No	1.36	No
30	365	0.0605	1.07	No	1.10	No
31	356	0.0686	1.21	No	1.24	No
32	346	0.0332	0.58	No	0.59	No
33	337	0.0430	0.75	No	0.76	No
34	330	0.0487	0.85	No	0.87	No
35	322	0.0532	0.92	No	0.94	No
36	313	0.0753	1.27	No	1.32	No

Notes:

Ordinary least squares estimated effect is regression coefficient on the indicator variable for presence of an underwriting defect. T-statistics calculated using heteroscedasticity-robust standard errors.

Logit t-statistic is asymptotic t-statistic for defect indicator variable. Point estimate of coefficient on defect indicator not shown.

46. I also perform a regression analysis to test whether defects help explain early defaults, i.e., loans that default no later than month 27. The results using both ordinary least squares and logit show a statistically significant association between underwriting defects and the probability of default during this initial window.²⁸

²⁸ The robust t-statistic from the ordinary least squares regression is 2.75 and the asymptotic t-statistic from the logit regression is 2.98. Both indicate statistical significance because they are above the “critical” value of 1.96.

Table 2
Trust Losses Due to Material Underwriting Defects
Over 27-Month Horizon Indicated by Regression Analysis
(\$ Billions)

	Losses	
1	Recognized losses at horizon date:	\$5.6
	Projected additional losses as of horizon date:	
2	Stock of delinquent loans	\$18.0
3	Average severity	55.6%
4	Additional losses on delinquent loans (2 x 3)	\$10.0
5	Estimated total losses on loans defaulting by horizon date (1 + 4)	\$15.6
6	Add estimated 20.5% to account for trust data not reported in Vision (10.5% x 1.946)	\$3.2
7	Total losses on loans defaulting by horizon date (5 + 6)	\$18.8
8	% of losses on loans with material defects	40.4%
9	Losses on loans with defects (7 x 8)	\$7.6
10	Default rate on loans without causative defects	10.7%
11	Default rate on loans with causative defects	19.4%
12	% of causative defective losses which would have occurred without defects (10 ÷ 11)	55.2%
13	Severity adjustment factor	91.2%
14	Loss that would have occurred anyway (9 x 12 x 13)	\$3.8
15	Excess losses on defect loans (9 - 14) (Estimated liability with no statute of limitations adjustment)	\$3.8
	<u>Liability after alternative SOL adjustments:</u>	
16	A. Exclude all pre-May 2006 deals but allow for all tolling agreements	<u>-\$0.5</u>
17		\$3.3
18	B. Exclude all pre-May 2006 deals but allow for trustee tolling agreements	<u>-\$1.0</u>
19		\$2.7

49. **Line 1—Actual losses recognized by month 27.** For most of the ResCap Trusts, the ResCap Vision database compiles cumulative losses by Trust and month after issuance. For each Trust, I selected the cumulative losses as of month 27. Line 1 shows the total across all Trusts for that horizon.

50. **Line 2—Seriously delinquent loan balances as of month 27.** The ResCap Vision database compiles the loan balances that are 90 or more days delinquent, in foreclosure, or real-estate owned (“REO”) by Trust and month after issuance. For each Trust, I selected the sum of these categories (the “seriously delinquent balances”) as of month 27. I make the simplifying assumption for

this purpose that all of the seriously delinquent balances as of month 27 will generate losses for the Trusts.

51. **Line 3—Average severity.** The ResCap Vision database compiles the average severity rate by Trust and month after issuance. Severity refers to the amount of losses as a percentage of the outstanding balances on the loans that gave rise to the losses. I use the severity as of the horizon month in conjunction with the seriously delinquent balances to estimate losses. Line 3 reports the weighted average severity across the Trusts at month 27, where the weights are the amount of seriously delinquent balances by Trust.

52. **Line 4—Additional losses from seriously delinquent loans.** Calculated as line 2 times line 3. These losses will be in addition to the losses already recognized by the Trusts by the horizon date.

53. **Line 5—Losses at month 27.** Calculated as line 1 plus line 4.

54. **Line 6—Factor for additional losses.** The Vision data represent approximately \$200 billion in original face amount of loans. This is smaller than the \$220.987 billion in total face amount of the ResCap trusts due to a number of private deals not included in the Vision database.²⁹ There are two components to an appropriate imputation for the missing data. First, the additional face amount is approximately 10.5% of the total in Vision. Second, the missing data are mainly second liens that have higher average severity than the deals in Vision. I estimate that this severity is approximately 94.6% higher, which leads to an adjustment factor equal to 20.5% (10.5% multiplied by 1.946).³⁰ The loss estimate is increased by this factor to estimate the total loss.

²⁹ From spreadsheet RC-9019_00000002.xls, tab "Data," column "Orig Deal Balance."

³⁰ Calculated as weighted average severity for 2nd lien ResCap Trusts divided by weighted average severity for first lien ResCap Trusts as given by RC-9019_00000002.xls. Severities weighted by original trust balances. An alternative calculation based on the Vision data at the 27 month horizon yields a somewhat lower adjustment factor, which would lower the loss estimate.

55. **Line 7—Total losses as of month 27.** Calculated as line 5 plus line 6.

56. **Line 8—Percent of losses associated with loans with defects.** Derived from the 819 re-underwritten loans and the CoreLogic loan-level payment histories and loss data. For loans that default by the relevant horizon, I calculate the losses on sample loans with underwriting defects and total losses on the sample loans that default within 27 months. The ratio is the percentage of dollar losses on loans that default within 27 months which are associated with materially defective loan underwriting.

57. **Line 9—ResCap losses on loans with material underwriting defects.** Line 7 multiplied by line 8. This estimate is for the ResCap Trusts.

58. **Line 10—Default rate on loans without material defects.** Derived from the 819 re-underwritten loans. This is the ratio of the amount of defaulting principal by month 27 (for loans without defects) to the total original principal (for loans without defects).

59. **Line 11—Default rate on loans with material defects.** Derived from the 819 re-underwritten loans. This is the ratio of the amount of defaulting principal by month 27 (for loans with defects) to the total original principal (for loans with defects).

60. **Line 12—Percent of losses that would have occurred in the absence of defects.** Calculated as line 10 divided by line 11.

61. **Line 13—Severity adjustment.** Derived from the 819 re-underwritten loans. This sets the severity of the but-for losses to reflect the loans without defects instead of loans with defects. The sample shows that for loans with material underwriting defects, the losses for loans defaulting by month 27 amounted to 50.8% of the corresponding original balances. The figure was 46.4% for loans without defects that defaulted by month 27. Loans without defects, which are the relevant basis for but-for losses, are estimated to have severity that is 91.2% of the severity (46.4 divided by 50.8) for defective

loans. This adjustment reduces the calculated amount of but-for losses and increases the calculated put-back liability.

62. **Line 14—ResCap losses that would have occurred anyway.** Calculated as line 9 times line 12 times line 13. This estimate is for the ResCap Trusts.

63. **Line 15—Excess ResCap losses attributable to defective underwriting.** Line 9 minus line 14. The losses due to defective underwriting equal the total losses as of the horizon date minus the losses that would have occurred by the horizon date in the absence of underwriting defects.

64. **Line 16—Statute of limitations adjustment for all deals with tolling agreements.** I have been asked by counsel to analyze the effect of a six year statute of limitations adjustment on my analysis, taking account of all tolling agreements.³¹ This adjustment, with certain exceptions, would exclude all Trusts that were created before May 14, 2006. For deals with tolling agreements, the cut-off date is earlier by the number of days in the tolling agreement (for agreements that ended before May 14, 2012) or the number of days between the date of the tolling agreement and May 14, 2012 (for agreements that extend beyond May 14, 2012). In cases where a deal had multiple tolling agreements with different dates, I used the date that resulting in the longest extension.³² Line 16 shows the effect of this adjustment on the calculated losses due to underwriting defects.

65. **Line 17—Losses net of statute of limitations adjustment for all deals with tolling agreements.** Line 15 plus line 16.

66. **Line 18—Statute of limitations adjustment for deals with tolling agreements entered into by trustees.** I have been asked by counsel to analyze the effect of a six year statute of limitations

³¹ I understand from counsel that, shortly before the commencement of this bankruptcy (in most instances less than a year before that date), the Debtors entered into a small number of tolling agreements with RMBS Trustees and additional tolling agreements with certain investors. I assumed for the computation described here that all of these tolling agreements in fact toll the statute of limitations.

³² Several trusts had two tolling agreements, one ending in 2010 and a later one ending in 2012. In the case I set the extension to the total number of days tolled before May 14, 2012.

adjustment on my analysis, taking account all tolling agreements entered into by trustees.³³ This adjustment, with certain exceptions, would exclude all Trusts that were created before May 14, 2006. For deals with tolling agreements, the cut-off date is earlier by the number of days in the tolling agreement (for agreements that ended before May 14, 2012) or the number of days between the date of the tolling agreement and May 14, 2012 (for agreements that extend beyond May 14, 2012). In cases where a deal had multiple tolling agreements with different dates, I used the date that resulting in the longest extension. Line 18 shows the effect of this adjustment on the calculated losses due to underwriting defects.

67. **Line 19—Losses net of statute of limitations adjustment for deals with tolling agreements with trustees.** Line 15 plus line 18.

68. Table 2 is based on an economic model of losses caused by underwriting defects. Consideration of losses which would have occurred even without any underwriting defects, and the horizon over which there is a statistically significant connection between underwriting defects and increased likelihood of defaults, permits the measurement of losses resulting specifically from underwriting defects. This contrasts with a more mechanical approach that ignores these significant causation issues. For example, assuming that “lifetime” loan losses will reach \$45.2 billion – the mid-point of the range estimated by Mr. Sillman³⁴ – the re-underwriting results imply that total losses on loans with material underwriting defects will total \$16.5 billion, if no account is taken of the loss causation issues or of possible statute of limitations or election of remedies defenses.³⁵ As I have shown,

³³ For this computation, in other words, I adjust only for the four tolling agreements entered between the Debtors and the Trustees, and not also the Debtors’ agreements with investors.

³⁴ RC-9019_00054000.

³⁵ The sample of 819 re-underwritten loans with matching CoreLogic pay history data indicates that the defective loans account for 36.6% of losses to date among the sample loans, implying that 36.6% of the \$45.2 billion in overall lifetime losses will occur on loans with material underwriting defects. This percentage differs from Table 2, line 8 because, as a lifetime measure, it is calculated using defaults over all horizons, not just by month 27. Giving effect to a six year statute of limitations period and all tolling agreements lowers the result to \$12.1 billion. A similar calculation using only tolling agreements with trustees yields \$9.7 billion. Taking account of an election of

however, much of this amount is due to the general distress in the housing market and the U.S. economy.

69. I also use the framework of Table 2 to investigate whether using only the 819 re-underwritten loans that could be matched to CoreLogic payment history data, instead of the full sample of 1,089 re-underwritten loans, leads to any bias in my results. I find no bias, as I now explain.

70. I “reweight” the sample of 819 so that it reasonably matched the full sample of 1,089. To explain, because a disproportionate number of the loans missing from CoreLogic were second liens, I took explicit account of this factor. Specifically, I grouped the sample of 819 into first liens and second liens. The data in the re-underwriting files allowed me to calculate the aggregate loan amounts by lien type, and also the loan amounts by lien type for the sample of 819. I then computed the ratio of the aggregate loan amount by lien type to the corresponding amount for the 819 sample. These ratios are the reweighting factors. Each loan amount and each loss amount in CoreLogic is multiplied by the factor that corresponds to the type of lien.

71. On the assumption that payment and loss experience for the first liens in the 819 loans is representative for the full underwriting sample of first liens, and similarly for the second liens, my procedure should calibrate my loss analysis using the payment characteristics for the full sample. I used this adjusted data to recompute the parameters in Table 2, i.e., lines 8, 10, 11, and 13, and to recompute losses. The results showed losses of \$3.3 billion, which is a slight decline relative to Table 2. This result indicates that excess loss analysis reported in Table 2 is not biased downward due to the missing pay histories, but might be slightly above the amount which would have been reported had I had access to pay history data spanning all of the ResCap Trusts.

remedies defense, described further below, but not a statute of limitations defense, implies losses of approximately \$6 billion.

3.5. Adjustments for election of remedies defense

72. I have been asked by counsel to adjust the analysis in Table 2 in light of a recent decision in a case in Minnesota.³⁶ Specifically, I have been asked to assume that a put-back claim would not be allowed for a mortgage loan that has already been liquidated but that, instead, a put-back right would only exist for mortgages that have not yet been liquidated.³⁷ I have been instructed to carry out this adjustment without any offset for statute of limitations considerations. I will refer to this approach as the “election of remedies” defense.

73. The main additional question for this approach is to estimate what fraction of the loans that were already in default by month 27 have not yet been liquidated. This fraction will be used to scale the results in Table 2 down to the level implied by the election of remedies. This analysis can be carried out using the CoreLogic sample of payment histories alone because the re-underwriting results are not relevant for analyzing the incidence of mortgage liquidation.

74. To be consistent with Table 2, I limit the CoreLogic sample to loans that defaulted by month 27. This yielded a sample of 3,383 loan pay histories. The CoreLogic data included the current (3rd quarter 2012) payment status of those loans (which ranges from liquidated with no loss to overdue to in-foreclosure), the original principal balance, the remaining principal balance, and losses incurred.

75. The CoreLogic data indicate that even if all of these remaining principal balances (including loans with a 2012 payment status of “current”) plus any accrued losses (due, for example, to loan modifications) were considered to constitute the put-back liability, the resulting amount would be unlikely to exceed approximately \$500 million. This conclusion is based my estimate that, for the loans that defaulted by month 27, the remaining principal in 2012 plus accrued losses totals no more than

³⁶ MASTR Asset Backed Securities Trust 2006-HE3 v. WMC Mortgage Corporation, 2012 U.S. Dist. LEXIS 142579 (D. Minn, 2012).

³⁷ Mortgages loans can be liquidated for several reasons. The underlying property may be sold or refinanced, so that the original mortgage is paid off. A loan, such as a home equity loan, may be paid off or a mortgage may be fully pre-paid. If there is a default, the mortgage may be liquidated with a loss. In my analysis, a mortgage that is in foreclosure or is REO is not considered to have been liquidated.

6.2% of the original balances. Applying 6.2% to my estimate of \$7.6 billion in losses for loans with defects (Table 2, line 9) yields a possible election of remedies loss estimate of \$474 million.

4. Mr. Sillman's Approach to Valuation of R&W Claims

76. The Debtor's expert, Frank Sillman, presented an analysis that he contends shows that, with respect to R&W breach claims, "the range of Potential Repurchase Requirements is \$6.7 billion to \$10.3 billion."³⁸ There are two main steps to Mr. Sillman's approach to determining "Potential Repurchase Requirements": his computation of "Estimated Lifetime Losses" that the Trusts will experience (about two-thirds of which he contends have already occurred and one-third will occur in the future), and his opinion regarding "the percentage of Estimated Lifetime Losses that the Debtors might agree to share with the Trusts ('Loss Share Rate') as a result of potential breaches of representations and warranties."³⁹

77. However accurate he may be in tallying and projecting lifetime loan losses, the way Mr. Sillman approaches the second step – the fraction of those losses for which the ResCap Trusts would demand that the Debtors repurchase the loans and to which the Debtors "might agree" – is fundamentally flawed and unreliable. Unsurprisingly, because the Proposed Settlement reflects the fact that the Debtors *have already agreed to share* 19% of the loan losses projected by Mr. Sillman (or more precisely, have agreed to an allowed claim in that amount),⁴⁰ he assumes that the upper and lower bounds of the amount the Debtors might *hypothetically* agree to share would range from 15% to 21%, a range that tightly brackets the amount they have in fact agreed to share. Indeed, Mr. Sillman could have generated exactly the amount of the Proposed Settlement as his computed "Potential Repurchase Requirement" by simply using *the settlement's* agreed loss share rate as the basis for his own

³⁸ Sillman Declaration, ¶68. Mr. Sillman subsequently submitted an additional analysis, according to which those numbers would be slightly lower. Supplemental Declaration of Frank Sillman, September 28, 2012.

³⁹ Sillman Declaration, ¶6; Sillman Supplemental Declaration, ¶17.

⁴⁰ Sillman Supplemental Declaration, p. 11.

computations instead of his assumed loss share rate. At his deposition, he acknowledged that he considered the amount of the settlement's proposed Agreed Claim when making his assumptions and, therefore, determining the reasonableness of the amount of the settlement itself.⁴¹ But this is circular reasoning. His work sheds no light on the relevant economic issue – the actual losses that trusts and their RMBS investors incurred which are attributable to underwriting defects or to R&W breaches.

78. Mr. Sillman breaks his assumed "loss share rate" into a series of cumulative reductions to the estimated lifetime losses. First, he posits an "audit rate," which is the percentage of loans with losses that he assumes the Trusts would review for possible breaches. Second, he posits a "demand rate," which is the percentage of audited loans that he assumes the Trusts would demand that the Debtors repurchase. Third, he defines a "breach rate" (which might more accurately be labeled an *alleged* breach rate) equal to the audit rate multiplied by the demand rate. Fourth, he posits an "agree rate," which is the percentage of the claimed breaches that he believes the Debtors would agree to repurchase. His calculation may be summarized as an assumed breach rate multiplied by an assumed agree rate. But he provides no meaningful independent support for any of these assumed rates, each of which can easily be set to a level to generate any particular ultimate "loss share rate."

79. Mr. Sillman relies on the Debtors' higher than average "agree rate" with respect to repurchase demands arising from GSE (Fannie Mae and Freddie Mac) securitizations from the 2006-08 period.⁴² But he acknowledges that the GSE securitizations upon which he relies are not representative of the PLS securitizations at issue here, because PLS securitizations have "less stringent representations and warranties" than GSE securitizations.⁴³ He therefore does not use the Debtors' reported GSE agree

⁴¹ Deposition of Frank Sillman, November 20, 2012 (Sillman Deposition), pp. 183-84.

⁴² Sillman Declaration, ¶¶61-62. The same report he cites shows that a measure of the "demand rate" (demands as a percentage of loans sold) was significantly *lower* for the Debtors than for sellers to the GSEs overall. Sillman Declaration, Exhibit A. Mr. Sillman makes no mention of this fact in his Declaration.

⁴³ Sillman Declaration, ¶61. He explains, "For example, in many of Trusts' Governing Agreements there is little to no fraud representation or warranty language, and the requirements to conform to the Underwriting Guidelines are often qualified with 'generally' or 'substantially' in compliance with the Underwriting Guidelines, which are

rate of 67.56%, recognizing that it is unrepresentative and must be discounted to a lower figure.⁴⁴

Instead, he assumes the Debtors' agree rate should be in the range from 41% to 47%⁴⁵ —but his

Declaration does not explain why this range is more appropriate than a substantially lower level, such as 31% or even 21%.

80. Experts frequently are asked to determine damages on the assumption that liability is found with respect to some act or conduct. Mr. Sillman states that he takes “no position on the ability of any party to prove a breach of representations and warranties under the Governing Agreements, and I assume for the purposes of this Declaration that such a showing can be made against Debtors.”⁴⁶ But this is not a case in which the issue is whether a single contract was breached. Rather, one of the key questions is the number of loans at issue in the proposed settlement for which there are material underwriting defects or R&W breaches. However, Mr. Sillman does not rely on any review of these loans.⁴⁷ He therefore has no basis to determine the actual incidence of underwriting defects or R&W breaches as to these loans, much less to ascertain the amount of loan losses caused by these defects.

81. Mr. Sillman did review the Debtors' pre-petition PLS repurchase history, but he did not use it as a basis for either his breach rate or his agree rate, which together determine his loss share rate.⁴⁸ As his own tabulations make clear, that pre-petition experience supports a much lower breach rate and a much lower agree rate than the rates he uses in his opinion:

both lower standards than are found in Fannie Mae or Freddie Mac agreements.” *Id.* Indeed, a spreadsheet produced by his firm indicates, for example, that trusts holding 47.2% of the original loan balances had no “Underwriting rep” and trusts holding 78.8% of the original loan balances had no “Fraud rep.” Fortace spreadsheet, RC-9019_00000002 (native).

⁴⁴ Sillman Declaration, ¶¶61-62.

⁴⁵ Sillman Declaration, ¶62.

⁴⁶ Sillman Declaration, ¶5.

⁴⁷ Sillman Deposition, pp. 125-28.

⁴⁸ Sillman Declaration, ¶8.

- Mr. Sillman assumes a breach rate of approximately 40%.⁴⁹ But the Debtors' actual repurchase history shows that aggregate repurchase demands to date total only \$1.8 billion in original principal balances, compared to \$45 billion in original principal for loans that have already been liquidated.⁵⁰ This indicates a "breach rate" of about 4% (1.8 divided by 45), not 40%.
- Similarly, Mr. Sillman assumes the Debtors would "agree" to 44% of loan repurchase demands.⁵¹ But his tabulations show that for loans that have actually been put back, the Debtors actually agreed to repurchase only 18.6% of dollar balances of loans for which reviews were completed, not 44%.⁵²

82. Mr. Sillman's comparison of the proposed Agreed Claim to the R&W settlements recently reached by Bank of America and Lehman Brothers is similarly flawed. Those settlements involved different parties, different loans, and different securitizations, which would need to be considered before using them as benchmarks. Mr. Sillman acknowledged that "[t]here may be variances in the breach rates based on different originators, based on, you know, certain factors" – but he made no attempt to analyze the impact of any such factors.⁵³ Nevertheless, if these two settlements are used as benchmarks, the Debtors' resulting repurchase liability would be a good deal less than \$8.7 billion according to Mr. Sillman's own analysis.

83. Specifically, Mr. Sillman concludes that these settlements reflect "loss share rates" of 14% for Bank of America and 9% to 14% (with a midpoint of 11.5%) for Lehman Brothers.⁵⁴ Multiplying the \$45.2 billion midpoint of Mr. Sillman's Total Estimated Lifetime Losses by his 14% Bank of America

⁴⁹ Sillman Declaration, ¶157 (midpoint of 36% to 44% range).

⁵⁰ RC-9019_00000001.xls, RC-9019_00056670 (2).xls.

⁵¹ Sillman Declaration, ¶162 (midpoint of 41% to 47% range).

⁵² RC-9019_00056670 (2).xls.

⁵³ Sillman Deposition, p. 55.

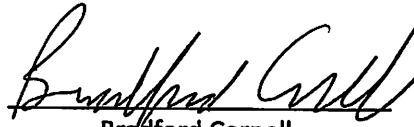
⁵⁴ Sillman Declaration, ¶165.

loss share rate yields a “repurchase obligation” for the Debtors of only \$6.3 billion. Using the 11.5% midpoint Lehman Brothers loss share rate yields a repurchase obligation of \$5.2 billion.

5. Conclusion

84. The exact value of the ResCap Trusts’ R&W claims against the Debtors, of course, cannot be ascertained short of litigation or Bankruptcy Court estimation of all such claims to final resolution. The methodology that I used to estimate the value of these claims relies on the use of re-underwriting results, which counsel has instructed me to use as a rough proxy for what may constitute R&W breaches, and in addition reflects assumptions and directions I have been given by counsel as to the applicable law. Modifications to my methodology could be warranted as a result of further analysis, litigation of R&W claims, or legal determinations in this or other proceedings. Nevertheless, from an economic perspective, any analysis that seeks to measure the losses caused by R&W breaches or by underwriting defects must take account of the fact that the collapse of the housing market and the deterioration of the U.S. economy which began to accelerate in 2007 contributed significantly both to the number of mortgage loan defaults and to the severity of losses on defaulted loans. The evidence I have analyzed and described here suggests that underwriting defects also contributed to these losses. The methodology I have used is a reasonable approach to determining the amount necessary to compensate the ResCap Trusts for their collateral losses due to underwriting defects, without generating a windfall that allows them to recover for unrelated losses.

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AWARDS AND HONORS

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Bernstein Fabozzi/Jacobs Levy Award for outstanding research from *The Journal of Portfolio Management*, 2010

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Financial Management Association Prize for Applied Research, 1987

Institute for Quantitative Research in Finance, Research Grant, 1984

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PAST 4 YEARS DEPOSITION AND TRIAL TESTIMONY

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In Re eToys, Inc. Initial Public Offering Securities Litigation	2/10	Deposition Testimony
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